2004 Baseline Survey of **Wood Branch**

Middle Pecatonica River Watershed (SP08), Sugar/Pecatonica Basin

Lafayette County

WBIC 926300

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Wood Branch is an 8 mile long tributary to the Pecatonica River. Like other major streams in this watershed, it was once considered a fine smallmouth bass fishery (Surface Waters of Lafayette County, WDNR., 1967) and harbored small numbers of other game species. More recent surveys have shown the stream to mainly hold a variety of warm water forage species. The stream suffers impacts to habitat and dissolved oxygen due to heavy agriculture in the watershed.

On September 22, 2004, a survey was conducted at two sites on Wood Branch: upstream from County Highway O and upstream from County Highway Z. Fish surveys were conducted at each site, and a habitat evaluation and macroinvertebrate sample was taken at the CTH Z site. Each fish survey was conducted using a 240 volt D.C. stream shocker with 2 probes. All fish species were collected in order to determine an Index of Biotic Integrity (IBI).

County Highway Z
Wood Branch at this site averaged 4.7 meters wide and had an average depth of about 0.7 meters. Flow was measured at 7.4 ft^3/second (0.21 m^3/second). The water temperature was 58^{o}F. The stream runs though a pasture with a large floodplain. Bank height ranges from 0 to 2.3 meters high with some being well vegetated and others raw and eroded. The bottom is mostly silt and sand covering gravel. A habitat and macroinvertebrate sample was taken at this site, but the results are not available at this time.

Two hundred twenty three meters of stream were shocked. The following non-game species were collected:

Species	**Number**
White Sucker	180
Common Shiner	178
Bluntnose Minnow	62
Johnny Darter	6
Hornyhead Chub	10
Green Sunfish	1
Sand Shiner	1
Central Stoneroller	10
Rosyface Shiner	13
Spotfin Shiner	9
Creek Chub	1
Suckermouth Minnow	1
Brook Stickleback	1
Golden Redhorse	15

In addition, the following game and panfish species were collected:

Species	Size (in.)	Species	Size (in.)
Smallmouth Bass	4.9	Bluegill	2.6
Largemouth Bass	2.6	Bluegill	4.9
Rock Bass	5.1	Bluegill	3.2
Rock Bass	5.0	Bluegill	2.4
Rock Bass	5.9	Bluegill	2.6
Bluegill	2.8		

The warm-water IBI for this site was 45 (fair).

County Highway O

The stream at this site is much smaller than at CTH Z. It has an average width of about 3 meters and an average depth of about 0.3 meters. The water temperature was 58^{o}F. This upper section is not as agricultural although some of the tributaries are in pasture. Stream banks vary from 1 to 2 meters high and are moderately eroded with some sloughing into the stream. The bottom is mostly gravel and rubble/cobble with a good gradient to flush sediment. This stream section consists mostly of riffles and runs with very few pools.

An 89 meter section was shocked. The following fish species were collected:

Species	Number*
Central Stoneroller	77
Creek Chub	53
Hornyhead Chub	66
Johnny Darter	135
Bluntnose Minnow	25
White Sucker	13
Southern Redbelly Dace	218
Fantail Darter	75
Common Shiner	183
Stonecat	1
Bigmouth Shiner	2
Sand Shiner	1
Brook Stickleback	1

* Fish were so numerous that not all specimens could be collected.

The warm water IBI for this section of stream was 39 (fair).

Summary

The Wood Branch was historically reputed to be a good smallmouth bass fishery. Surveys in the last couple of years have shown few bass, but fair to good habitat although there is a general lack of instream cover in the lower stretches. It is suspected that fish kills have plagued this stream and that nonpoint source pollution effects the recruitment of bass to this stream. There are a fair variety of warm water forage species dominated by common shiners. The habitat varied between the two stations as the lower section was wide and deep, but lacking hard substrate. The upper section was more narrow and shallow, but contained more riffle areas and hard substrate. Like the other major tributaries to the Pecatonica, this stream should have the potential to be good for smallmouth bass reproduction as these waters could be a good nursery for young fish. It should be noted that this survey was conducted near the end of a cool, wet summer.

Management Recommendations:

Employ agricultural best management practices in the watershed to mitigate nonpoint source pollution.

Slope and stabilize stream banks along the length of the stream.

Add habitat such as anchored logs and/or boulders to the larger, deeper sections of stream.

Attempt to better document impacts from fish kills or low dissolved oxygen levels in limiting the potential of the stream. Deploy Sonde devices in spring and summer for 1 to 2 week periods.

Review classification of the stream to determine realistic potential for the stream (forage fish vs. sport fish) and to determine whether this stream should be added to the 303(d) list of impaired waters.